In the claims:

9 8. (Amended) A combination of an electro-magnetic actuator and a viscous fluid clutch installed in a vehicle, the clutch having an armature plate for controlling fluid coupling within the clutch, the actuator comprising:

a shaft having a first end portion and a second end portion;

a nut having an inner peripheral surface and an outer peripheral surface, said inner peripheral surface coupled with said first end portion of said shaft;

a bearing disposed around said second end portion of said shaft for rotatably supporting said shaft;

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an electrical coil disposed around said shaft between said nut and said bearing for receiving electrical current and producing magnetic flux; and

a ferromagnetic can disposed around said shaft having a peripheral surface extending between said shaft and said outer peripheral surface of said nut for establishing a path for magnetic flux flow there between,

said peripheral surface of said can interposed between said electrical coil and said bearing partitioning said electrical coil inside said can and said bearing outside said can.

8 15. (New) The actuator as set forth in claim 1 wherein said can is an L-shaped member, a first wall extending radially outward from said shaft between said coil and said bearing to a distal end of said first wall located beyond said electrical coil, and a second wall extending axially with respect to said shaft from said distal end of said first wall and said outer peripheral surface of said nut.

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16. (New) The combination as set forth in claim 8 wherein said can is an L-shaped member, a first wall extending radially outward from said shaft between said coil and said bearing to a distal end of said first wall located beyond said electrical coil, and a second wall extending axially with respect to said shaft from said distal end of said first wall and said outer peripheral surface of said nut.